

CORRECTED COPY

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

**AFMS 23B1
16 September 1996**



Manpower Standard

★ **FABRICATION FLIGHT**

★ This Air Force Manpower Standard (AFMS) quantifies the manpower required to accomplish the tasks described in the process oriented descriptions for varying levels of workload. The Fabrication Flight is responsible for Survival Equipment (PART 1 (23B1.1)) and Nondestructive Inspection (PART 2 (23B1.2)). This is a peacetime AFMS. Refer to each individual part for mission objective, applicability, authority, core composition, standard data, application instructions, statement of conditions, process oriented description, standard manpower table, approved variances, and process analysis summary. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication**, through channels, to AFMEA/AEDA, 550 E Street East, Randolph AFB, Texas 78150-4451.

★ **SUMMARY OF CHANGES**

This AFMS supersedes AFMS 2315/2R33, 21 April 1980, and AFMS 2317/2R37, 28 January 1983, and revises these AFMSs in their entirety. It implements format changes to comply with SAF requirements. This corrected copy adds additional information to Part 2, page 20, para 3.2, Step 2, Application Matrix, F-15 (all models), and page 21, B-52. It also includes minor administrative changes. Changes are identified with a star (★).

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PART 1

★ FABRICATION FLIGHT (SURVIVAL EQUIPMENT) (23B1.1)

The mission objective of the Survival Equipment section is to inspect, repair, and repack parachute equipment and rubber products; inspect and repair protective clothing and organizational clothing; and fabricate protective covers and bags. This part applies to CONUS and overseas Air Force installations with assigned aircraft in AMC, ACC, AETC, USAFE, and PACAF, only. This part does not apply to AF Reserves, Air National Guard, and bases that are scheduled for closure. It also does not apply to the following bases: Hickam, Andrews, Patrick, Howard, Randolph, Andersen, Keflavik, K.I. Sawyer, Lajes, Scott, and Keesler. Applicable bases will develop a negative variance to account for the processes not performed and a positive variance to account for the processes not included in PART 1. This part does not apply to flights that have been cost compared (OMB Circular A-76). Bases should develop negative variances to account for processes performed by contract. AFI 38-101, *Air Force Organization*, provides USAF policy for standard structures for organizations. PART 1 was developed under an objective flight study in accordance with policy and guidance from the Air Staff and AFMAN 38-208, *Air Force Management Engineering Program (MEP)*. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication**, through channels, to AFMEA/AEDA, 550 E Street East, Randolph AFB, Texas 78150-4451.

★ SUMMARY OF CHANGES

PART 1 supersedes AFMS 2315/2R33, 21 April 1980, in its entirety.

1. Core Composition. This AFMS was developed for the Survival Equipment shop, supporting objective wings with a core requirement of one or more of the following aircraft:

1.1. Core Requirement:

A-10	(41 PAI) = 5
F-15	
F-16	
F-117	
C-141	(32 PAI) = 15
C-5	(32 PAI) = 11
KC-135	(26 PAI) = 8
C-130	(27 PAI) = 7
B-52	(25 PAI) = 6
B-1	(32 PAI) = 5
F-4	(21 PAI) = 4
KC-10	(20 PAI) = 2
E4	(3 PAI) = 2
E3	(2 PAI) = 2
C-9	(3 PAI) = 2
T37/38	(5 PAI) = 1

1.2. **Programming Factor.** Primary Aircraft Inventory (PAI).

2. Standard Data:

2.1. **Approval Date.** 29 August 1996

2.2. **Man-hour Data Source.** Workshop Measurement2.3. **Man-hour Equation:**

F16 (single seat)	Y =	11.17 + 3.87(X)
F15 (single seat)		
A10		
F117		
F16 (two seat)	Y =	4.08 + 7.21(X)
F15 (two seat)		
C12/C21	Y =	4.93(X)
F4	Y =	8.98(X)
B52	Y =	177.93 + 21.6(X)
B1	Y =	23.63 + 11.65(X)
T37/38	Y =	1.55 + 3.63(X)
KC10	Y =	-18.28 + 3.37(X)
C130	Y =	204.92 + 23.39(X)
C141	Y =	418.87 + 52.36(X)
C5	Y =	42.68(X)
KC135	Y =	-20.54 + 40.38(X)
E3	Y =	22.22(X)
C9	Y =	29.36(X)
E4	Y =	20.55(X)

2.4. **Workload Factor:**2.4.1. **Title.** Primary Aircraft Inventory (PAI).2.4.2. **Definition.** Total Primary Aircraft Inventory by Mission Design Series (MDS) of the base.2.4.3. **Source.** The most current source document available identifying base PAI.2.5. **Points of Contact:**2.5.1. **AFMEA Representative.** SMSgt Phillip E. Brown or SSgt Vernon Griego, AFMEA/AEDA.2.5.2. **Functional Representative.** Capt Mack Breeland, HQ ACC/LGQP.3. **Application Instructions:**

3.1. **Step 1.** Using the most current source document available for the projected year, determine the total PAI of your base by MDS.

3.2. **Step 2.** Using the applicable man-hour equation/equations in paragraph 2.3, substitute the PAI/PAIs determined in Step 1, for "X", and compute the man-hours.

3.3. **Step 3.** Determine variances applicable to your location. Approved variances are located at Attachment 3. (Some variances are in man-hours and others are in manpower requirements.) Add the variances in man-hours to the man-hours determined in Step 2. Variances in manpower requirements will be added in Step 5 to the fixed manpower.

3.4. **Step 4.** Divide the total man-hours determined in Step 3 by the applicable man-hour availability factor (MAF) and overload factor to determine variable manpower. If your base has multiple MDS, add total man-hours of all equations before dividing by MAF.

3.5. **Step 5.** Using the PAI from Step 1 and the matrix below, determine the fixed manpower. Apply matrix individually to MDS, i.e., if base "x" has both F-16s and F-15s, apply matrix to F-16s to determine manpower, then to F-15s. Then sum manpower for this step. (Fixed manpower for C12 and C21 aircraft is included in core man-hours.)

	Number Aircraft	Manpower
single seat	12-36	2.00
A10/F15	37-70	3.00
F16/F117	71-95	4.00
	96-120	5.00
	121+	6.00
two seat*	12-24	2.00
F15/F4	25-36	3.00
F16	37-48	4.00
	49-50	5.00
	51-61	6.00
	62-70	7.00
	71-80	8.00
	81-90	9.00
	91+	10.00
KC135/C5	1-6	1.00
C141	7-15	1.25
B1/B52	16-30	1.50
	31-45	1.75
	46-60	2.00
	61-75	2.25
C130	1-14	1.00
	15-40	1.50
	41-50	2.00
	51-90	2.50
E4/E3/C9	1-6	1.00
	7-15	2.00
	16-30	2.50
	31-45	3.00
T37/38	1-15	1.00
Primary Acft	16-35	2.00
T37/38	4-12	0.50
Secondary Acft		
KC10	1-15	0.50
	16-40	1.00

***NOTE:** If less than 12 aircraft, add the number of two seaters to single seat aircraft and then apply single seat matrix only.

3.6. **Step 6.** Add variable manpower (Step 4) to fixed manpower (Step 5) to determine total manpower requirements.

3.7. **Step 7.** Refer to Attachment 2 (Manpower Table) for the grades and skills table.

4. Statement of Conditions:

4.1. Standard hours of operation for the Survival Equipment shop are 8 hours per day, 5 days per week, stand-by on weekends. Some larger shops may have two shifts.

4.2. Manpower equations were not developed for helicopters. At most locations associated workload is earned in the mission variance for para-rescue/combat control teams. At remaining locations, workload is included in the core manpower.

4.3. This AFMS was developed under the CSAF-directed "no growth policy."

Attachments

1. Process Oriented Description
2. Manpower Table
3. Approved Variances
4. Process Analysis Summary

PROCESS ORIENTED DESCRIPTION**FABRICATION FLIGHT
(SURVIVAL EQUIPMENT)****A1.1. AIRCRAFT INTEGRAL PARACHUTE MAINTENANCE:**

A1.1.1. PERFORMS INSPECTION, REPAIR, AND, REPACK OF ACESII PARACHUTE.

A1.1.2. PERFORMS INSPECTION, REPAIR, AND, REPACK OF MKH7 PARACHUTE.

A1.2. PERSONNEL PARACHUTE MAINTENANCE:

A1.2.2. PERFORMS INSPECTION, REPAIR, AND, REPACK OF "BA" TYPE PARACHUTE.

A1.2.3. PERFORMS INSPECTION, REPAIR AND, REPACK OF S-17, S-18 AND WINDRIFT PARACHUTE.

A1.2.4. PERFORMS INSPECTION, REPAIR AND, REPACK OF MT-1X, MT-1S AND MC-1C PARACHUTE.

A1.3. DROGUE OR STABILIZER PARACHUTE MAINTENANCE: Performs inspection, repair, and, repack of Drogue/Stabilizer Drogue parachute.

A1.4. RUBBER PRODUCT MAINTENANCE:

A1.4.1. PERFORMS INSPECTION, REPAIR, AND, REPACK OF ONE-MAN AND MULTI-PLACE LIFE RAFT, ESCAPE SLIDE.

A1.4.2. PERFORMS INSPECTION, REPAIR, CONDEMN/REPACK OF LIFE PRESERVER.

A1.4.3. PERFORMS INSPECTION, REPAIR OF ANTI-EXPOSURE SUIT (CWU74P).

A1.5. FABRIC OR LEATHER PRODUCT MAINTENANCE: Inspects and repairs thermal curtain, blow-out patch, over-wing fairing, troop seat, safety net, cargo net, and restraint harness.

A1.6. LOCAL MANUFACTURE:

A1.6.1. MANUFACTURES AIRCRAFT INTAKE AND EXHAUST COVERS, EJECTION SEAT PROTECTIVE COVERS, AIRCRAFT PITOT TUBE COVERS, AIR DATA PROBE COVERS, AIRCRAFT SEAT COVERS, AIRCRAFT ARMREST COVERS, HEADREST COVERS, AIRCRAFT AIRCREW BUNK COVERS, AIRCRAFT HEADLINERS AND AIRCRAFT INSULATION.

A1.6.2. MANUFACTURES FLIGHTLINE FOD BAGS.

A1.7. PROTECTIVE CLOTHING MAINTENANCE: Inspects and repairs toxic suit, G-suit, survival vest, torso harness, CWU23P, and CWU16P.

A1.8. ORGANIZATIONAL CLOTHING MAINTENANCE: Repairs seams and replaces zippers on parkas and flight clothing in accordance with 14P series technical orders.

NOTE: Depending on type of Primary Aircraft Inventory(PAI) at a base, some of the processes may not be applicable. Reference Attachment 4 for applicable processes by MDS.

MANPOWER TABLE											
WORK CENTER/FAC			APPLICABILITY MAN-HOUR RANGE								
SURVIVAL EQUIPMENT/23B1			482.1 - 7552.9								
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Fabrication & Parachute Craftsman	2A774	MSG							1	1	1
Fabrication & Parachute Craftsman	2A774	TSG	1	1	1	1	1	1	1	1	1
Fabrication & Parachute Journeyman	2A754	SSG	0	1	1	2	2	2	2	3	3
Fabrication & Parachute Journeyman	2A754	SRA	1	1	2	2	2	3	3	3	3
Fabrication & Parachute Apprentice	2A734	A1C	1	1	1	1	2	2	2	2	3
TOTAL			3	4	5	6	7	8	9	10	11
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Fabrication & Parachute Craftsman	2A774	MSG	1	1	1	1	1	1	1	1	1
Fabrication & Parachute Craftsman	2A774	TSG	1	1	2	2	2	2	2	2	3
Fabrication & Parachute Journeyman	2A754	SSG	3	4	4	4	4	5	5	5	5
Fabrication & Parachute Journeyman	2A754	SRA	4	4	4	4	5	5	6	7	7
Fabrication & Parachute Apprentice	2A734	A1C	3	3	3	4	4	4	4	4	4
TOTAL			12	13	14	15	16	17	18	19	20
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Fabrication & Parachute Craftsman	2A774	MSG	1	1	1	1	2	2	2	2	2
Fabrication & Parachute Craftsman	2A774	TSG	3	3	3	3	3	3	4	4	4
Fabrication & Parachute Journeyman	2A754	SSG	6	6	6	7	7	7	7	7	7
Fabrication & Parachute Journeyman	2A754	SRA	7	7	8	8	8	9	9	9	10
Fabrication & Parachute Apprentice	2A734	A1C	4	5	5	5	5	5	5	6	6
TOTAL			21	22	23	24	25	26	27	28	29
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Fabrication & Parachute Craftsman	2A774	MSG	2	2	2	2	2	2	2	2	2
Fabrication & Parachute Craftsman	2A774	TSG	4	4	4	4	4	4	5	5	5
Fabrication & Parachute Journeyman	2A754	SSG	8	8	8	8	9	9	9	9	10
Fabrication & Parachute Journeyman	2A754	SRA	10	11	11	12	12	12	12	13	13
Fabrication & Parachute Apprentice	2A734	A1C	6	6	7	7	7	8	8	8	8
TOTAL			30	31	32	33	34	35	36	37	38

AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Fabrication & Parachute Craftsman	2A774	MSG	2	2	2	2	2	2	2	2	2
Fabrication & Parachute Craftsman	2A774	TSG	5	5	5	5	5	5	5	6	6
Fabrication & Parachute Journeyman	2A754	SSG	10	10	11	11	11	12	12	12	12
Fabrication & Parachute Journeyman	2A754	SRA	13	14	14	14	15	15	16	16	16
Fabrication & Parachute Apprentice	2A734	A1C	9	9	9	10	10	10	10	10	11
TOTAL			39	40	41	42	43	44	45	46	47

APPROVED VARIANCES**FABRICATION FLIGHT
(SURVIVAL EQUIPMENT)**

A3.1. Title. Positive Mission Variance for the Aircraft Refurbishment Program.

A3.1.1. Definition. To support the refurbishment program for the C130, C141, C5, and C9 aircraft. Use the applicable equation and substitute the PAI for X to determine the fractional manpower requirement:

Aircraft Type	Aircraft Type	Aircraft Type	Aircraft Type
C-5	C-141	C-130	C-9
X/3.96	X/7.51	X/9.85	2 (for Scott AFB Only)

A3.1.2 Impact. Use equations above.

A3.1.3. Applicability. Davis Monthan, Dyess, Little Rock, Pope, Kirtland, Elmendorf, Ramstein, Charleston, Dover, McChord, Travis, Moody, & Yokota.

A3.2. Title. Positive Mission Variance for Para-Rescue Units (PJ) and Combat Control Teams (CCT).

A3.2.1. Definition. To support those bases that have PJ and CCT units average 24 jumps/year/person (12 for proficiency & qualification). Using the following equation, substitute the total number of PJ or CCT authorizations for "P" to determine fractional manpower: **0.061(P)**.

A3.2.2. Impact. Use equation above.

A3.2.3. Applicability. Holloman, Nellis, Pope, Little Rock, Kirtland, Ramstein, Charleston, McChord, Elmendorf, Kadena, Eielson, & Yokota.

A3.3. Title. Negative Mission Variance for not Providing Equipment Maintenance Support.

A3.3.1. Definition. Travis AFB provides a reduced number of personnel parachute support per Primary Aircraft Inventory(PAI).

A3.3.2. Impact. -1 manpower requirement.

A3.3.3. Applicability. Travis.

A3.4. Title. Positive Mission Variance for Para-Rescue/Combat Control Team Schools.

A3.4.1. Definition. To provide support for bases with PJ/CCT schools.

A3.4.2 Applicability	Impact (manpower requirements)
Pope	+5
Kirtland	+4

A3.5. Title. Positive Mission Variance for Other Populations Supported.

A3.5.1. Definition. Holloman AFB must provide extra parachute maintenance to support the Taiwanese students.

A3.5.2. Impact. +86.78 man-hours.

A3.5.3. **Applicability.** Holloman.

A3.6. Title. Positive Mission Variance for Increased Aircrew Support (EC-130).

A3.6.1 **Definition.** Bases with EC130 aircraft perform extra survival equipment support (for aircrew) over what is allowed in the core equation for C130 aircraft.

A3.6.2. **Impact.** +80.35 man-hours.

A3.6.3. **Applicability.** Davis-Monthan.

A3.7. Title. Positive Mission Variance for Deceleration Parachute Maintenance.

A3.7.1. **Definition.** To support aircraft that use Deceleration Parachutes. Using the applicable equation, substitute the average monthly number of associated aircraft sorties for "S" to determine the fractional man-hours:

F117	= 1.60(S)
F4	= 1.15(S)
B52	= 2.29(S)

A3.7.2. **Impact.** See equation above.

A3.7.3. **Applicability.** Barksdale, Holloman, Minot, Nellis, & Mountain Home.

A3.8. Title. Positive Mission Variance for Cope Thunder Support.

A3.8.1. **Definition.** Cope Thunder is a flying training exercise conducted four times per year. Average flying days per each Cope Thunder is 20 days per exercise. An average of 3 man-hours per day are expended in supporting TDY Aircrews.

A3.8.2. **Impact.** +19.28 man-hours.

A3.8.3. **Applicability.** Eielson.

A3.9. Title. Positive Mission Variance for AFSOC Support (Host tenant Support Agreement between 51 FW and 31 SOS).

A3.9.1. **Definition.** Survival Equipment performs support to the 31 SOS. Unit inventories include life rafts, life preservers, and anti-exposure suits. Support also requires initial build-up and repair of aircrew and maintenance flight clothing, modification and customizing aircrew and maintenance survival vests, and services, inspects, refills, and performs minor repair of life raft bottles and parachute bailout oxygen systems.

A3.9.2. **Impact.** +1 manpower requirement.

A3.9.3. **Applicability.** Osan.

A3.10. Title: Positive Mission Variance to Support Aircraft Maintenance and Regeneration Center (AMARC).

A3.10.1. **Definition.** Survival Equipment performs support to include the inspection and repacking of F-4 personnel and drogue parachutes in support of the QF-4 program and maintenance of protective and organizational clothing.

A3.10.2. **Impact.** +164 man-hours.

A3.10.3. **Applicability.** Davis-Monthan.

A3.11. Title. Positive Mission Variance for EC-130 Aircraft.

A3.11.1. **Definition.** Provides the man-hours for the additional work for EC-130 aircraft above the man-hours allowed by the standard for a typical C-130 aircraft. Inspects and repacks additional BA-18 parachutes used on the EC-130. Inspects and repairs the LRU-16/P one-man life rafts.

A3.11.2. **Impact.** +217 man-hours.

A3.11.3. **Applicability.** Davis-Monthan.

A3.12. Title. Positive Mission Variance for Support of B-52 Aircraft (TDY).

A3.12.1. **Definition.** 28th Maintenance Squadron, Ellsworth, SD performs scheduled and unscheduled inspection, repair, and repack maintenance on drogue or stabilization, personnel parachutes, rubber products, personnel anti exposure suits, and protective clothing in support of B-52 maintenance.

A3.12.2. **Impact.** +1 manpower requirement.

A3.12.3. **Applicability.** Ellsworth.

A3.13. Title. Positive Mission Variance for Research and Development Test Drone Support.

A3.13.1. **Definition.** Supports 28 QF106A's for their Drag chutes, Personnel chutes and all their Survival Equipment needs.

A3.13.2. **Impact.** +181.25 man-hours.

A3.13.3. **Applicability.** Holloman.

A3.14. Title. Positive Mission Variance for Helicopter Support.

A3.14.1. **Definition.** Provides Survival Equipment support to 72nd Helicopter Squadron. This support includes inspection, repair, and pack of 6 LRU-1/P 7-man life rafts, 60 LPU 10/P life preservers and 20 CWU 16/P quick don anti-exposure coveralls.

A3.14.2. **Impact.** +20 man-hours.

A3.14.3. **Applicability.** Langley.

A3.15. Title. Positive Mission Variance for 12th Airlift Flight.

A3.15.1. **Definition.** Provides Survival Equipment support to 12th Airlift Flight. This support includes inspection, repair, and pack of four T9AF 9-man life rafts annually.

A3.15.2. **Impact.** +6 man-hours.

A3.15.3. **Applicability.** Langley.

A3.16. Title. Positive Mission Variance for Aero Club Support.

A3.16.1. **Definition.** Maintains life preservers for the Langley Aero Club.

A3.16.2. **Impact.** +5 man-hours.

A3.16.3. **Applicability.** Langley.

A3.17. Title. Positive Mission Variance for ACC Flight Personnel Support.

A3.17.1. **Definition.** Provides organizational clothing maintenance support for HQ ACC flight personnel.

A3.17.2. **Impact.** +45 man-hours.

A3.17.3. **Applicability.** Langley.

A3.18. Title. Positive Mission Variance for 561st Fighter Squadron Deployment Support.

A3.18.1. **Definition.** Provides survival equipment support for the numerous deployments levied on the 561st Fighter Squadron.

A3.18.2. **Impact.** +1 manpower requirement.

A3.18.3. **Applicability.** Nellis.

A3.19. Title. Positive Mission Variance for Tactical Air Control Parties (TACP).

A3.19.1. **Definition.** Provides survival equipment support to those bases that have TACP Units. TACPs are Air Force units that provide direct liaison to Army maneuver forces. This variance provides manpower for those TACPs on jump status only, these are only those aligned with airborne Army units (i.e., 82nd Airborne Division, Rangers, Special Forces, etc). Using the following equation substitute the total number of jumper authorizations for "P" to determine fractional manpower: $Y=0.235(P)$.

A3.19.2. **Impact.** Use equation above.

A3.19.3. **Applicability.** Pope.

PROCESS ANALYSIS SUMMARY

FABRICATION FLIGHT
(SURVIVAL EQUIPMENT)

E4 3 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Rubber Product Maintenance	3.20	11 One Man Rafts 4 Multi-Place Rafts 4 Life Preservers	.38
Fabric or Leather Product Maint.	63.40	FIXED	.40
Local Manufacture	63.40	FIXED	.40
Protective Clothing Maint.	8.00	FIXED	.05
Organizational Clothing Maint.	24.10	FIXED	.15
TOTAL FRACTIONAL MANPOWER			1.38

C9 3 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Rubber Product Maintenance	1.07	3 Multi-Place Rafts 77.50 Life Preservers 2 Escape Slides	.55
Fabric or Leather Product Maint.	64.30	FIXED	.40
Local Manufacture	64.30	FIXED	.40
Protective Clothing Maint.	8.00	FIXED	.05
Organizational Clothing Maint.	24.10	FIXED	.15
TOTAL FRACTIONAL MANPOWER			1.55

E3 2 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Rubber Product Maintenance	1.08	1.50 Multi-Place Rafts 39 Life Preservers 1 Escape Slide	.28
Fabric or Leather Product Maint.	64.30	FIXED	.40
Local Manufacture	64.30	FIXED	.40
Protective Clothing Maint.	8.00	FIXED	.05
Organizational Clothing Maint.	24.10	FIXED	.15
TOTAL FRACTIONAL MANPOWER			1.28

KC135 26 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Personnel Parachute Maint.	3.50	67 BA Type Parachutes	1.46
Rubber Product Maintenance	1.15	63 10 Man Rafts 27 Multi-Place Rafts 596 Life Preserves 5.5 Escape Slides	4.95
Fabric or Leather Product Maint.	96.40	FIXED	.60
Local Manufacture	96.40	FIXED	.60
Protective Clothing Maint.	12.00	FIXED	.08
Organizational Clothing Maint.	35.40	FIXED	.22
TOTAL FRACTIONAL MANPOWER			7.91

C5 32 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Personnel Parachute Maint.	3.00	14 BA Type Parachutes	.26
Rubber Product Maintenance	1.04	40 Multi-Place Rafts 1203 Life Preservers 35 Escape Slides	8.24
Fabric or Leather Product Maint.	112.50	FIXED	.70
Local Manufacture	112.50	FIXED	.70
Protective Clothing Maint.	14.50	FIXED	.09
Organizational Clothing Maint.	42.00	FIXED	.26
TOTAL FRACTIONAL MANPOWER			10.25

C141 32 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Personnel Parachute Maint.	3.50	55 BA TYPE Parachutes	1.19
Rubber Product Maintenance	1.00	62 Multi-Place Rafts 1680 Life Preservers	11.84
Fabric or Leather Product Maint.	112.50	FIXED	.70
Local Manufacture	112.50	FIXED	.70
Protective Clothing Maint.	14.50	FIXED	.09
Organizational Clothing Maint.	42.00	FIXED	.26
TOTAL FRACTIONAL MANPOWER			14.78

C130 27 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Personnel Parachute Maint.	3.00	63.5 BA Type Parachutes	1.19
Rubber Product Maintenance	1.00	32 Multi-Place Rafts 586 Life Preservers	4.02
Fabric or Leather Product Maint.	96.40	FIXED	.60
Local Manufacture	96.40	FIXED	.60
Protective Clothing Maint.	11.30	FIXED	.07
Organizational Clothing Maint.	37.00	FIXED	.23
TOTAL FRACTIONAL MANPOWER			6.71

KC10 20 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Rubber Product Maintenance	1.10	39 Life Preservers .31 5.5 Multi-Place Rafts	
Fabric or Leather Product Maint	64.30	FIXED	.40
Local Manufacture	64.30	FIXED	.40
Protective Clothing Maint.	8.00	FIXED	.05
Organizational Clothing Maint.	24.10	FIXED	.15
TOTAL FRACTIONAL MANPOWER			1.31

		T37/38	5 PAI	
<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>	
Drogue or Stabilizer Parachute Maint.	2.00	2	.02	
Personnel Parachute Maint.	4.00	3	.08	
Rubber Product Maintenance	1.50	1 Life Raft 1 Life Preserver	.02	
Fabric or Leather Product Maint.	16.00	FIXED	.10	
Local Manufacture	16.00	FIXED	.10	
Protective Clothing Maint.	40.20	FIXED	.25	
Organizational Clothing Maint.	8.00	FIXED	.05	----
TOTAL FRACTIONAL MANPOWER			.62	

		B1	32 PAI	
<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>	
Integral Parachute Maint.	12.00	3 ACES II Parachutes	.23	
Drogue or Stabilizer Parachute Maint.	3.50	2.5 ACES II 2 BA Type Parachutes	.09	
Personnel Parachute Maint.	3.50	2 BA Type Parachutes	.04	
Rubber Product Maintenance	2.60	30 Life Rafts 41 Life Preservers 59 Anti-Expo Suits	2.10	
Fabric or Leather Product Maint.	56.20	FIXED	.35	

Local Manufacture	56.20	FIXED	.35
Protective Clothing Maint.	141.50	FIXED	.88
Organizational Clothing Maint.	27.30	FIXED	.17

TOTAL FRACTIONAL MANPOWER			4.21

B52 25 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Drogue or Stabilizer Parachute Maint.	2.50	8.50 Parachutes	.13
Personnel Parachute Maint.	4.00	83 BA Type Parachutes	2.07
Rubber Product Maintenance	1.60	75 Life Rafts 94 Life Preservers 59 Anti-Expo Suits	2.27
Fabric or Leather Product Maint.	48.20	FIXED	.30
Local Manufacture	48.20	FIXED	.30
Protective Clothing Maint.	120.50	FIXED	.75
Organizational Clothing Maint.	24.10	FIXED	.15

TOTAL FRACTIONAL MANPOWER			5.97

**SINGLE SEAT FIGHTERS
TWO SEAT FIGHTERS****35
6
41 PAI**

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Integral	12.00	4.50 ACES II	.34
Drogue or Stabilizer Parachute Maint.	4.00	2.50 Parachutes	.06

Rubber Product Maintenance	2.50	15 Life Rafts 14 Life Preservers 22.50 Anti-Expo Suits	.81
Fabric or Leather Product Maint.	96.40	FIXED	.60
Local Manufacture	96.40	FIXED	.60
Protective Clothing Maint.	241.00	FIXED	1.50
Organizational Clothing Maint.	48.20	FIXED	.30
TOTAL FRACTIONAL MANPOWER			4.21

F-4 21 PAI

<u>Process Title</u>	<u>Process Time (Man-Hours)</u>	<u>Monthly Projected Workload</u>	<u>Fractional Manpower</u>
Integral Parachute Maint.	6.00	11.50 MKH7 Parachutes	.43
Drogue or Stabilizer Parachute Maint.	2.50	11.50 Parachutes	.18
Rubber Product Maintenance	2.05	11.50 Life Rafts 15 Life Preservers 17.50 Anti-Expo Suits	.56
Fabric or Leather Product Maint.	64.30	FIXED	.40
Local Manufacture	64.40	FIXED	.40
Protective Clothing Maint.	160.70	FIXED	1.0
Organizational Clothing Maint.	32.20	FIXED	.20
TOTAL FRACTIONAL MANPOWER			3.17

PART 2**★ FABRICATION FLIGHT (NONDESTRUCTIVE INSPECTION) (23B1.2)**

The mission of the Nondestructive Inspection (NDI) section is to perform various inspections to determine structural integrity of assigned aircraft, specific components, and ground support equipment. The NDI Laboratory also performs the oil analysis program (OAP) at selected locations. This part applies to CONUS and overseas Air Force installations in AMC, ACC, AETC, PACAF, and USAFE. This part does not apply to AF Reserve, Air National Guard, and bases scheduled for closure. It does not apply to locations that have been cost compared (OMB Circular A-76). This part does not apply to bases with reduced or nonstandard operations, own limited or no aircraft, or bases that have a classified mission, including Incirlik, Andersen, Hickam, Whiteman, Andrews, Beale, and Randolph. Applicable bases will develop a negative variance to account for the processes not performed and a positive variance to account for the processes not included in this part. AFI 21-105, *Aerospace Equipment Structural Maintenance*, provides policy and procedural guidance for this work center. PART 2 of this AFMS is the result of an objective flight study and has been developed in accordance with policy and guidance from the Air Staff and AFMAN 38-208, *Air Force Management Engineering Program (MEP)*. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication**, through channels, to AFMEA/AEDA, 550 E Street East, Randolph AFB, Texas 78150-4451.

★ SUMMARY OF CHANGES

PART 2 of this AFMS supersedes AFMS 2317/2R37, 28 January 1983, in its entirety. This corrected copy adds additional information to page 20, para 3.2, Step 2, Application Matrix, F-15 (all models), and page 21, B-52. It also includes minor administrative changes. Changes are identified with a star (★).

1. Core Composition. The core composition is determined by Mission Design Series (MDS). There is a different core for each type of aircraft. The matrices included in PART 2 reflect core manpower required based on the number and type of aircraft assigned to each base.

1.1. **Core Manpower Requirements.** Determined by MDS

1.2. **Core Manpower Range.** 2 - 40

1.3. **Major Programming Factor.** Primary Aircraft Inventory (PAI)

2. Standard Data:

2.1. **Approval Date.** 29 August 1996

2.2. **Manpower Data Source.** Workshop Measurement

2.3. **Manpower Equations.** See Matrix in para 3 below

2.4. Workload Factor:

★2.4.1. **Title.** Primary Aircraft Inventory (PAI).

2.4.2. **Definition.** The total Primary Aircraft Inventory (by MDS) to the installation.

2.4.3. **Source.** The most current source document available identifying base PAI.

2.5. Points of Contact:

2.5.1. **AFMEA Representative.** SMSgt Phillip E. Brown or SSgt Vernon Griego, AFMEA/AEDA

2.5.2. **Functional Representative.** Capt Mack Breeland, HQ ACC/LGQP

3. Application Instructions:

3.1. **Step 1.** Determine the total PAI at your base by MDS, for the projected year. **NOTE:** For the purposes of this standard, the MDS with the greatest number of aircraft is the primary aircraft. For example, if you have 37 C 5s and 34 C-141s, then C-5s would be the primary aircraft. Also, if you have the identical number of PAI (different MDS, 18 F-15C/Ds and 18 F-15Es) in two squadrons, only one can be considered primary. All other aircraft are considered secondary for your location.

3.2. **Step 2.** Using the PAI from Step 3.1. and the matrix below, determine the manpower for the primary then secondary aircraft (i.e., using the example from above, under the C5 matrix determine the appropriate primary manpower; next, under the C141 matrix, determine the appropriate secondary manpower). Sum the primary manpower and secondary manpower to determine total core manpower.

NOTE: Some MDS, such as the B-52, are primary only since that aircraft is not secondary at any location. F4s, E4s, T37s, T38s, and Helicopters are considered secondary only.

APPLICATION MATRIX:

MDS	PAI	MANPOWER (PRIMARY)	MANPOWER (SECONDARY)
F-15 *	1-18	8	4
	(All Models) 19-21	9	4
	22-25	10	5
	26-29	11	5
	30-34	12	6
	35-38	13	6
	★ 39-58	14	8
	59-78	17	10
	79+	19	12

* **Note:** Squadrons of F-15C/Ds will not be grouped with F-15Es for manpower. One will be considered Primary and the other Secondary.

MDS	PAI	MANPOWER (PRIMARY)	MANPOWER (SECONDARY)
F-16	1-10	2	1
	(All Models) 11-20	3	1
	21-30	4	2
	31-40	6	3
	41-50	7	4
	51-60	9	5
	61+	10	6
KC-135 and E3s	1-25	3	1
	26-40	4	2
	41-59	5	3
	60+	6	4
KC-10	1-29	3	1

	30+	4	2
C-5	1-9	4	1
	10-19	7	3
	20-29	10	5
	30-39	13	7
	40+	15	9
C-130	1-20	4	2
	21-40	6	4
	41-60	8	6
	61-80	10	8
	81+	12	10
C-141	1-20	4	2
	21-40	10	4
	41-60	12	6
	61-80	13	8
	81+	14	10
C-9	1-12	3	1
	13+	5	2
A-10/OA-10	1-39	4	2
	40-60	6	2
	61-80	10	2
	81+	14	2
B-1	1-11	6	2
	12-21	12	2
	22-31	15	2
	32+	17	2
MDS	PAI	MANPOWER (PRIMARY)	MANPOWER (SECONDARY)
B-52	1-10	4	
	11-16	5	
	17-22	6	
	23-28	7	
	29-34	8	
★	35+	9	
T-38	3-5	-	1
	6-10	-	2
	11-15	-	3
	16-20	-	4
	20+	-	5

E-4	1	-	.55
	2	-	1.10
	3	-	1.60
*T-37 AND	1-2	-	0
HELICOP-	3-11	-	1
TERS	12-21	-	2
	22+	-	3

***NOTE:** Add all helicopters and T-37s together and apply the total to the table

3.3. **Step 3.** Determine variance man-hours applicable to your location. Approved variances are located at Attachment 3. All variances are in manpower requirements so there is no need to use the man-hour availability factor (MAF). Sum the variances and use the current rounding rules.

3.4. **Step 4.** Use the manpower table at Attachment 2 to determine the appropriate grades and skills.

4. Statement of Conditions. The normal hours of operation are 16 hours a day, 5 days a week. However, some laboratories are working three shifts for effective utilization of personnel, space, and equipment. Hours of operation for some shops are based on the installation's flying commitment or other factors. The oil analysis program operates more efficiently in a climatically controlled environment (air conditioned). Due to electrical shock and radiation poison hazards, individuals are not allowed to perform certain tasks without another person present. Cold weather conditions do not have a major impact on required manpower. Travel to and from the flight line is required in order to perform many inspections. Man-hours for travel were included in the standard. Standby man-hours were not utilized in the development of the standard. No other environmental or physiological factors were identified that had a man-hour impact in the development of this manpower standard.

Attachments

1. Process Oriented Description
2. Standard Manpower Table
3. Approved Variances
4. Process Analysis Summary

PROCESS ORIENTED DESCRIPTION**FABRICATION FLIGHT
(NONDESTRUCTIVE INSPECTION)****A1.1. PERFORMS MAGNETIC PARTICLE INSPECTION:**

- A1.1.1. PERFORMS IN-SHOP DIRECT CURRENT AND ALTERNATING CURRENT INSPECTION.
 - A1.1.1.1. PREPARES FOR WORK.
 - A1.1.1.2. PERFORMS PRE-CLEANING.
 - A1.1.1.3. PERFORMS PRE-INSPECTION.
 - A1.1.1.4. PERFORMS INSPECTION.
 - A1.1.1.4.1. APPLIES CURRENT.
 - A1.1.1.4.2. APPLIES WET PARTICLE SOLUTION.
 - A1.1.1.4.3. APPLIES DRY PARTICLE COMPOUND.
 - A1.1.1.4.4. INSPECTS MATERIAL.
 - A1.1.1.5. PERFORMS POST-CLEANING.
 - A1.1.1.6. PERFORMS POST-INSPECTION.
 - A1.1.1.7. DOCUMENTS FINDING.
- A1.1.2. PERFORMS OUT-OF-SHOP DIRECT CURRENT AND ALTERNATING CURRENT INSPECTION.
 - A1.1.2.1. PREPARES FOR WORK.
 - A1.1.2.2. PERFORMS PRE-CLEANING.
 - A1.1.2.3. PERFORMS PRE-INSPECTION.
 - A1.1.2.4. PERFORMS INSPECTION.
 - A1.1.2.4.1. APPLIES CURRENT.
 - A1.1.2.4.2. APPLIES WET PARTICLE SOLUTION.
 - A1.1.2.4.3. APPLIES DRY PARTICLE COMPOUND.
 - A1.1.2.4.4. INSPECTS MATERIAL.
 - A1.1.2.5. PERFORMS POST-CLEANING.
 - A1.1.2.6. PERFORMS POST-INSPECTION.
 - A1.1.2.7. PERFORMS TRAVEL TO AND FROM JOB SITE.
 - A1.1.2.8. DOCUMENTS FINDINGS.

A1.2. PERFORMS EDDY CURRENT INSPECTION:

- A1.2.1. PERFORMS IN-SHOP EDDY CURRENT AND CONDUCTIVITY INSPECTION.
 - A1.2.1.1. PREPARES FOR WORK.
 - A1.2.1.2. PERFORMS PRE-CLEANING.
 - A1.2.1.3. PERFORMS PRE-INSPECTION.
 - A1.2.1.4. PERFORMS CALIBRATION AND SETUP.
 - A1.2.1.5. PERFORMS INSPECTION.
 - A1.2.1.6. PERFORMS POST-CLEANING.
 - A1.2.1.7. PERFORMS POST-INSPECTION.
 - A1.2.1.8. DOCUMENTS FINDING.
- A1.2.2. PERFORMS OUT-OF-SHOP EDDY CURRENT AND CONDUCTIVITY INSPECTION.
 - A1.2.2.1. PREPARES FOR WORK.
 - A1.2.2.2. PERFORMS PRE-INSPECTION.
 - A1.2.2.3. PERFORMS CALIBRATION AND SETUP.
 - A1.2.2.4. PERFORMS TRAVEL TO WORK SITE.
 - A1.2.2.5. PERFORMS PRE-CLEANING.
 - A1.2.2.6. PERFORMS RECALIBRATION AND SETUP.
 - A1.2.2.7. PERFORMS INSPECTION.
 - A1.2.2.8. PERFORMS POST-CLEANING.
 - A1.2.2.9. PERFORMS POST-INSPECTION.
 - A1.2.2.10. DOCUMENTS RESULT.
 - A1.2.2.11. PERFORMS TRAVEL FROM JOB SITE.

A1.3. PERFORMS PENETRATING RADIATION (X-RAY) INSPECTION:

- A1.3.1. PERFORMS IN-SHOP PENETRATING RADIATION (X-RAY) INSPECTION.
 - A1.3.1.1. PREPARES FOR WORK.
 - A1.3.1.2. SETS UP EQUIPMENT.
 - A1.3.1.3. PERFORMS (X-RAY) SAFETY INSPECTION.
 - A1.3.1.4. PERFORMS PRE-CLEANING.
 - A1.3.1.5. PERFORMS PRE-INSPECTION.
 - A1.3.1.6. EXPOSES FILM.
 - A1.3.1.7. DEVELOPS FILM.
 - A1.3.1.8. VIEWS AND INTERPRETS FILM FOR POSSIBLE FLAW.
 - A1.3.1.9. DISASSEMBLES EQUIPMENT.
 - A1.3.1.10. PERFORMS POST-CLEANING.
 - A1.3.1.11. PERFORMS POST-INSPECTION.
 - A1.3.1.12. DOCUMENTS FINDINGS.
- A1.3.2. PERFORMS OUT-OF-SHOP PENETRATING RADIATION (X-RAY) INSPECTION.
 - A1.3.2.1. PREPARES FOR WORK.
 - A1.3.2.2. SETS UP EQUIPMENT.
 - A1.3.2.3. PERFORMS (X-RAY) SAFETY INSPECTION.
 - A1.3.2.4. PERFORMS PRE-CLEANING.
 - A1.3.2.5. PERFORMS PRE-INSPECTION.
 - A1.3.2.6. EXPOSES FILM.
 - A1.3.2.7. DEVELOPS FILM.
 - A1.3.2.8. VIEWS AND INTERPRETS FILM FOR POSSIBLE FLAW.
 - A1.3.2.9. DISASSEMBLES EQUIPMENT.
 - A1.3.2.10. PERFORMS POST-CLEANING.
 - A1.3.2.11. PERFORMS POST-INSPECTION.
 - A1.3.2.12. PERFORMS TRAVEL TO AND FROM JOB SITE.
 - A1.3.2.13. DOCUMENTS FINDING.
- A1.3.3. ENSURES RADIATION SAFETY PROGRAM IS ENFORCED.
- A1.3.4. CONDUCTS SILVER RECOVERY PROGRAM.
- A1.3.5. CONDUCTS SALVAGE FILM RECOVERY PROGRAM.

A1.4. PERFORMS OPTICAL INSPECTION:

- A1.4.1. PERFORMS IN-SHOP BOROSCOPE INSPECTION.
 - A1.4.1.1. PREPARES FOR WORK.
 - A1.4.1.2. PERFORMS PRE-CLEANING.
 - A1.4.1.3. PERFORMS PRE-INSPECTION.
 - A1.4.1.4. PERFORMS INSPECTION.
 - A1.4.1.5. PERFORMS POST-CLEANING.
 - A1.4.1.6. PERFORMS POST-INSPECTION.
 - A1.4.1.7. DOCUMENTS FINDING.
- A1.4.2. PERFORMS OUT-OF-SHOP BOROSCOPE INSPECTION.
 - A1.4.2.1. PREPARES FOR WORK.
 - A1.4.2.2. PERFORMS PRE-CLEANING.
 - A1.4.2.3. PERFORMS PRE-INSPECTION.
 - A1.4.2.4. PERFORMS INSPECTION.
 - A1.4.2.6. PERFORMS POST-INSPECTION.
 - A1.4.2.7. PERFORMS TRAVEL TO AND FROM JOB SITE.
 - A1.4.2.8. DOCUMENTS FINDING.
- A1.4.3. PERFORMS IN-SHOP OPTICAL INSPECTION WITH MICROSCOPIC AID.
 - A1.4.3.1. PREPARES FOR WORK.
 - A1.4.3.2. PERFORMS PRE-CLEANING.
 - A1.4.3.3. PERFORMS PRE-INSPECTION.

- A1.4.3.4. PERFORMS INSPECTION.
- A1.4.3.5. PERFORMS POST-CLEANING.
- A1.4.3.6. PERFORMS POST-INSPECTION.
- A1.4.3.7. DOCUMENTS FINDINGS.
- A1.4.4. PERFORMS OUT-OF-SHOP OPTICAL INSPECTION WITH MICROSCOPIC AID.
 - A1.4.4.1. PREPARES FOR WORK.
 - A1.4.4.2. PERFORMS PRE-CLEANING.
 - A1.4.4.3. PERFORMS PRE-INSPECTION.
 - A1.4.4.4. PERFORMS INSPECTION.
 - A1.4.4.5. PERFORMS POST-CLEANING.
 - A1.4.4.6. PERFORMS POST-INSPECTION.
 - A1.4.4.7. PERFORMS TRAVEL TO AND FROM JOB SITE.
 - A1.4.4.8. DOCUMENTS FINDING.

A1.5. PERFORMS FLUORESCENT PENETRANT INSPECTION:

- A1.5.1. PERFORMS IN-SHOP FLUORESCENT PENETRANT INSPECTION.
 - A1.5.1.1. PREPARES FOR WORK.
 - A1.5.1.2. PERFORMS PRE-CLEANING.
 - A1.5.1.3. PERFORMS PRE-INSPECTION.
 - A1.5.1.4. PERFORMS INSPECTION.
 - A1.5.1.4.1. APPLIES PENETRANT.
 - A1.5.1.4.2. ALLOWS PENETRANT TO DWELL.
 - A1.5.1.4.3. REMOVES EXCESS PENETRANT.
 - A1.5.1.4.4. APPLIES REMOVER.
 - A1.5.1.4.5. ALLOWS REMOVER TO DWELL.
 - A1.5.1.4.6. REMOVES EXCESS REMOVER.
 - A1.5.1.4.7. APPLIES DEVELOPER TO MATERIAL OR PART.
 - A1.5.1.4.8. ALLOWS DEVELOPER TO DWELL FOR PREDETERMINED TIME.
 - A1.5.1.4.9. CHECKS FOR DISCONTINUITY OR FLAW.
 - A1.5.1.5. PERFORMS POST-CLEANING.
 - A1.5.1.6. PERFORMS POST-INSPECTION.
 - A1.5.1.7. DOCUMENTS FINDING.
- A1.5.2. PERFORMS OUT-OF-SHOP FLUORESCENT DYE PENETRANT INSPECTION.
 - A1.5.2.1. PREPARES FOR WORK.
 - A1.5.2.2. PERFORMS PRE-CLEANING.
 - A1.5.2.3. PERFORMS PRE-INSPECTION.
 - A1.5.2.4. PERFORMS INSPECTION.
 - A1.5.2.4.1. APPLIES PENETRANT.
 - A1.5.2.4.2. ALLOWS PENETRANT TO DWELL.
 - A1.5.2.4.3. REMOVES EXCESS PENETRANT.
 - A1.5.2.4.4. APPLIES DEVELOPER TO MATERIAL OR PART.
 - A1.5.2.4.5. ALLOWS DEVELOPER TO DWELL FOR PREDETERMINED TIME.
 - A1.5.2.4.6. CHECKS FOR DISCONTINUITY OR FLAW.
 - A1.5.2.5. PERFORMS POST-CLEANING.
 - A1.5.2.6. PERFORMS POST-INSPECTION.
 - A1.5.2.7. PERFORMS TRAVEL TO AND FROM JOB SITE.
 - A1.5.2.8. DOCUMENTS RESULT.

A1.6. PERFORMS ULTRASONIC INSPECTION:

- A1.6.1. PERFORMS ULTRASONIC LEAK DETECTION IN-SHOP INSPECTION.
 - A1.6.1.1. PREPARES FOR WORK.
 - A1.6.1.2. PERFORMS PRE-CLEANING.
 - A1.6.1.3. PERFORMS PRE-INSPECTION.
 - A1.6.1.4. PERFORMS CALIBRATION AND SETUP.

- A1.6.1.5. PERFORMS INSPECTION.
- A1.6.1.6. PERFORMS POST-INSPECTION.
- A1.6.1.7. PERFORMS POST-CLEANING.
- A1.6.1.8. DOCUMENTS RESULT.
- A1.6.2. PERFORMS OUT OF SHOP ULTRASONIC LEAK DETECTION INSPECTION.
 - A1.6.2.1. PREPARES FOR WORK.
 - A1.6.2.2. PERFORMS PRE-INSPECTION.
 - A1.6.2.3. PERFORMS PRE-CLEANING.
 - A1.6.2.4. PERFORMS CALIBRATION AND SET-UP.
 - A1.6.2.5. PERFORMS INSPECTION.
 - A1.6.2.6. PERFORMS POST-INSPECTION.
 - A1.6.2.7. DOCUMENTS RESULT.
 - A1.6.2.8. PERFORMS TRAVEL TO AND FROM WORK SITE.
- A1.6.3. PERFORMS IN-SHOP THICKNESS INSPECTION.
 - A1.6.3.1. PREPARES FOR WORK.
 - A1.6.3.2. PERFORMS PRE-INSPECTION.
 - A1.6.3.3. PERFORMS PRE-CLEANING.
 - A1.6.3.4. PERFORMS CALIBRATION AND SET-UP.
 - A1.6.3.5. PERFORMS INSPECTION.
 - A1.6.3.6. PERFORMS POST-INSPECTION.
 - A1.6.3.7. DOCUMENTS RESULT.
- A1.6.4. PERFORMS OUT-OF-SHOP THICKNESS INSPECTION.
 - A1.6.4.1. PREPARES FOR WORK.
 - A1.6.4.2. PERFORMS PRE-INSPECTION.
 - A1.6.4.3. PERFORMS CALIBRATION AND SETUP.
 - A1.6.4.4. PERFORMS TRAVEL TO AND FROM WORK SITE.
 - A1.6.4.5. PERFORMS RECALIBRATION AND SETUP.
 - A1.6.4.6. PERFORMS PRE CLEANING.
 - A1.6.4.7. PERFORMS INSPECTION.
 - A1.6.4.8. PERFORMS POST-INSPECTION.
 - A1.6.4.9. PERFORMS POST-CLEANING.
 - A1.6.4.10 DOCUMENTS RESULTS.
- A1.6.5. PERFORMS IN-SHOP FLAW DETECTION INSPECTION.
 - A1.6.5.1. PREPARES FOR WORK.
 - A1.6.5.2. PERFORMS PRE-INSPECTION.
 - A1.6.5.3. PERFORMS PRE-CLEANING.
 - A1.6.5.4. PERFORMS CALIBRATION AND SETUP.
 - A1.6.5.5. PERFORMS INSPECTION.
 - A1.6.5.6. PERFORMS POST-INSPECTION.
 - A1.6.5.7. PERFORMS POST-CLEANING.
 - A1.6.5.8. DOCUMENTS RESULT.
- A1.6.6. PERFORMS OUT-OF-SHOP FLAW DETECTION INSPECTION.
 - A1.6.6.1. PREPARES FOR WORK.
 - A1.6.6.2. PERFORMS PRE-INSPECTION.
 - A1.6.6.3. PERFORMS CALIBRATION AND SETUP.
 - A1.6.6.4. PERFORMS TRAVEL TO AND FROM WORK SITE.
 - A1.6.6.5. PERFORMS RECALIBRATION AND SETUP.
 - A1.6.6.6. PERFORMS PRE-CLEANING.
 - A1.6.6.7. PERFORMS INSPECTION.
 - A1.6.6.8. PERFORMS POST-INSPECTION.
 - A1.6.6.9. PERFORMS POST-CLEANING.
 - A1.6.6.10. DOCUMENTS RESULT.

A1.7. PERFORMS BASIC AND ADVANCED COMPOSITE/BOND INSPECTION:

- A1.7.1. PERFORMS IN-SHOP ADVANCED COMPOSITE/BOND INSPECTION.
 - A1.7.1.1. PREPARES FOR WORK.
 - A1.7.1.2. PERFORMS PRE-INSPECTION.
 - A1.7.1.3. PERFORMS PRE-CLEANING.
 - A1.7.1.4. PERFORMS CALIBRATION AND SETUP.
 - A1.7.1.5. PERFORMS INSPECTION.
 - A1.7.1.6. PERFORMS POST-INSPECTION.
 - A1.7.1.7. PERFORMS POST-CLEANING.
 - A1.7.1.8. DOCUMENTS RESULT.
- A1.7.2. PERFORMS OUT-OF-SHOP ADVANCED COMPOSITE/BOND INSPECTION.
 - A1.7.2.1. PREPARES FOR WORK.
 - A1.7.2.2. PERFORMS PRE-INSPECTION.
 - A1.7.2.3. PERFORMS CALIBRATION AND SETUP.
 - A1.7.2.4. PERFORMS TRAVEL TO AND FROM WORK SITE.
 - A1.7.2.5. PERFORMS RECALIBRATION AND SETUP.
 - A1.7.2.6. PERFORMS PRE-CLEANING.
 - A1.7.2.7. PERFORMS INSPECTION.
 - A1.7.2.8. PERFORMS POST-INSPECTION.
 - A1.7.2.9. PERFORMS POST-CLEANING.
 - A1.7.2.10. DOCUMENTS RESULT.

A1.8. DEVELOPS TECHNIQUE:

- A1.8.1. DEVELOPS MAGNETIC PARTICLE TECHNIQUE.
- A1.8.2. DEVELOPS EDDY CURRENT TECHNIQUE.
- A1.8.3. DEVELOPS RADIOGRAPHIC (X-RAY) TECHNIQUE.
- A1.8.4. DEVELOPS DYE PENETRATE TECHNIQUE.
- A1.8.5. DEVELOPS ULTRASONIC TECHNIQUE.
- A1.8.6. DEVELOPS VISUAL TECHNIQUE.

A1.9. CONDUCTS OIL ANALYSIS PROGRAM (OAP):

- A1.9.1. PREPARES FOR WORK.
- A1.9.2. PERFORMS PRE-OPERATIONAL CHECK.
- A1.9.3. PERFORMS DAILY CALIBRATION CHECK.
- A1.9.4. PERFORMS FULL STANDARDIZATION.
- A1.9.5. PERFORMS DIAGNOSTIC CHECK.
- A1.9.6. COORDINATES REPAIR/SERVICE OF UNIT.
- A1.9.7. PROCESSES OIL SAMPLE UTILIZING SPECTROMETER.
 - A1.9.7.1. REMOVES SAMPLE BOTTLE/TUBE FROM CONTAINER.
 - A1.9.7.2. LOGS AND NUMBERS SAMPLE.
 - A1.9.7.3. PLACES SAMPLE IN SPECTROMETER AND SECURES DOOR.
 - A1.9.7.3.1. OPERATES FLUID ANALYSIS SPECTROMETER.
 - A1.9.7.3.2. RECORDS WEAR METAL TEST RESULT.
 - A1.9.7.4. PERFORMS TREND ANALYSIS.
 - A1.9.7.5. MAKES REQUIRED NOTIFICATIONS CONCERNING RESULT.
 - A1.9.7.6. ACCOMPLISHES DISCREPANCY REPORT.
 - A1.9.7.7. PERFORMS DATA COMPILATION AND REVIEW.
 - A1.9.7.8. TRANSMITS DATA.
 - A1.9.7.9. PERFORMS DATA FEEDBACK.
- A1.9.8. PERFORMS CORRELATION SAMPLE.
 - A1.9.8.1. PREPARES FOR WORK.
 - A1.9.8.2. PERFORMS PRE-OPERATIONAL INSPECTION.
 - A1.9.8.3. PERFORMS SAMPLE PREPARATION.
 - A1.9.8.4. PERFORMS FULL STANDARDIZATION.

- A1.9.8.5. PERFORMS DAILY CALIBRATION.
- A1.9.8.6. ANALYZES SAMPLE.
- A1.9.8.7. PERFORMS POST-OPERATIONAL CHECKS/INSPECTION.
- A1.9.8.8. RECORDS RESULT.
- A1.9.8.9. TRANSMITS DATA.
- A1.9.8.10. MAILES DATA.
- A1.9.8.11. VERIFIES MONTHLY OIL ANALYSIS PROGRAM REPORT.

A1.10. PERFORMS PROCESS CONTROL:

- A1.10.1. IDENTIFIES REQUIREMENT.
- A1.10.2. ESTABLISHES SCHEDULE.
- A1.10.3. PERFORMS INSPECTION.
- A1.10.4. PERFORMS MAINTENANCE.
- A1.10.5. DOCUMENTS FINDING.
- A1.10.6. PERFORMS TREND ANALYSIS.
- A1.10.7. PERFORMS TROUBLESHOOTING.

A1.11. PERFORMS WORK CENTER SUPERVISION AND ADMINISTRATION:

- A1.11.1. SUPERVISES ELEMENT PERSONNEL THROUGH THE FORMULATION OF POLICY AND PROCEDURE.
 - A1.11.1.1. SCHEDULES PERSONNEL.
 - A1.11.1.2. INSPECTS WORK IN PROGRESS.
 - A1.11.1.3. COUNSELS PERSONNEL.
 - A1.11.1.4. REVIEWS INCOMING/OUTGOING CORRESPONDENCE.
 - A1.11.1.5. INVESTIGATES MISHAP OR INCIDENT.
 - A1.11.1.6. RECEIVES AND ASSISTS VISITING OFFICIAL.
 - A1.11.1.7. PERFORMS QUALITY ASSURANCE EVALUATION.
- A1.11.2. PERFORMS ADMINISTRATION.
 - A1.11.2.1. PROCESSES INCOMING/OUTGOING DISTRIBUTION.
 - A1.11.2.2. MAINTAINS CORRESPONDENCE AND PUBLICATION FILE.
 - A1.11.2.3. MAINTAINS BLANK FORM.
 - A1.11.2.4. MAINTAINS TIME AND ATTENDANCE RECORD.
 - A1.11.2.5. PROVIDES OTHER REQUIRED ADMINISTRATIVE SUPPORT FOR THE FLIGHT.
 - A1.11.2.6. ORDERS SUPPLIES AND EQUIPMENT.
- A1.11.3. PERFORMS MAINTENANCE OF DEPLOYMENT/MOBILITY PACKAGES AND EQUIPMENT.
 - A1.11.3.1. DEFINES REQUIREMENT.
 - A1.11.3.2. BUILDS AND STORES PACKAGE.
 - A1.11.3.3. PERFORMS POST-DEPLOYMENT REVIEW.
- A1.11.4. PERFORMS HAZARDOUS WASTE MANAGEMENT.
 - A1.11.4.1. PROCESSES INCOMING CHEMICAL.
 - A1.11.4.2. PERFORMS REQUIRED BRIEFINGS/TRAINING.
 - A1.11.4.3. CONTROLS USAGE OF CHEMICALS DURING INSPECTION.
 - A1.11.4.4. PREPARES AND CONTROLS UTILIZATION LOG.
 - A1.11.4.5. PREPARES CHEMICALS FOR TURN-IN.
 - A1.11.4.6. PREPARES RECORDS FOR DISPOSAL ACTION.
 - A1.11.4.7. ACCOMPLISHES TURN-IN/DISPOSAL CHEMICAL/SOLID.
 - A1.11.4.8. AUDITS TRACKING/USAGE LOG.

STANDARD MANPOWER TABLE											
WORK CENTER/FAC			APPLICABILITY MAN-HOUR RANGE								
Fabrication Flight (Nondestructive Inspection)/23B1			See Matrices by MDS								
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Nondestructive Inspection Craftsman	2A772	MSG									1
*Nondestructive Inspection Craftsman	2A772	TSG	1	1	1	1	1	1	1	1	1
*Nondestructive Inspection Jrnyman	2A752	SSG		1	1	2	2	2	2	2	2
Nondestructive Inspection Jrnyman	2A752	SRA	1	1	2	2	2	2	2	3	3
Nondestructive Inspection Apprentice	2A732	A1C					1	2	3	3	3
TOTAL			2	3	4	5	6	7	8	9	10
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Nondestructive Inspection Craftsman	2A772	MSG	1	1	1	1	1	1	1	2	2
*Nondestructive Inspection Craftsman	2A772	TSG	1	2	2	2	2	2	2	2	2
*Nondestructive Inspection Jrnyman	2A752	SSG	3	3	3	3	4	4	4	4	5
Nondestructive Inspection Jrnyman	2A752	SRA	3	3	3	4	4	4	5	5	5
Nondestructive Inspection Apprentice	2A732	A1C	3	3	4	4	4	5	5	5	5
*Note: At locations providing three shifts for 24 hour/day flying missions, 1 TSG may be substituted for a SSG.											
TOTAL			11	12	13	14	15	16	17	18	19

STANDARD MANPOWER TABLE											
WORK CENTER/FAC			APPLICABILITY MAN-HOUR RANGE								
Fabrication Flight (Nondestructive Inspection)/23B1			See Matrices by MDS								
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Nondestructive Inspection Craftsman	2A772	MSG	2	2	2	2	2	2	2	2	2
Nondestructive Inspection Craftsman	2A772	TSG	2	3	3	3	3	3	3	3	4
Nondestructive Inspection Jrnyman	2A752	SSG	5	5	5	6	6	6	7	7	7
Nondestructive Inspection Jrnyman	2A752	SRA	5	5	6	6	6	7	7	7	7
Nondestructive Inspection Apprentice	2A732	A1C	6	6	6	6	7	7	7	8	8
TOTAL			20	21	22	23	24	25	26	27	28
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Aircraft Fabrication Supt	2A790	SMS				1	1	1	1	1	1
Nondestructive Inspection Craftsman	2A772	MSG	2	3	3	3	3	3	3	3	3
Nondestructive Inspection Craftsman	2A772	TSG	4	4	4	4	4	4	5	5	5
Nondestructive Inspection Jrnyman	2A752	SSG	7	7	8	8	8	9	9	9	10
Nondestructive Inspection Jrnyman	2A752	SRA	8	8	8	8	9	9	9	10	10
Nondestructive Inspection Apprentice	2A732	A1C	8	8	8	8	8	8	8	8	8
TOTAL			29	30	31	32	33	34	35	36	37

APPROVED VARIANCES**FABRICATION FLIGHT
(NONDESTRUCTIVE INSPECTION)**

A3.1. Title. Positive Mission Variance for Flaptrack Phase Inspection.

A3.1.1. Definition. Due to decentralization of the Flaptrack Phase Inspection of B-52 aircraft, the base level NDI shop now performs the requirement.

A3.1.2. Impact. +2

A3.1.3. Applicability. Barksdale, Minot.

A3.2. Title. Positive Mission Variance for F-15E Trainer Support.

A3.2.1. Definition. Due to increased workload associated with F15E trainers versus combat aircraft, additional manpower is required than the core allows.

A3.2.2. Impact. Variable .2(x) (x= number of F-15E trainer aircraft).

A3.2.3. Applicability. Seymour Johnson

A3.3. Title. Positive mission variance for higher headquarters tasked TDYs (Operation Provide Comfort and Operation Southern Watch)

A3.3.1. Definition. HQ ACC/DPW tasks ACC bases to provide NDI personnel to support higher headquarters-task TDYs. The tasking for 1995 is 24 TDYs of one Journeyman or Craftsman each. Of these 24 TDYs seven are 120 days in length (Operation Provide Comfort) and the other 17 are 90 days in length (Operation Southern Watch). These TDYs are on a continually rotating basis, are in addition to normal unit deployments and are not in support of unit-assigned aircraft. None of the ACC bases are manned to support these higher headquarters-task TDYs. This variance will remain in effect for the life of the two above mentioned operations.

A3.3.2. Impact. +1

A3.3.3. Applicability. Cannon, Davis-Monthan, Eglin, Hill, Langley, Moody, Mountain Home, Nellis, Seymour Johnson, Shaw, and Pope.

A3.4. Title. Positive Mission Variance for Cope Thunder Support.

A3.4.1. Definition. Cope Thunder is a flying training exercise conducted four times per year. Average flying days per each Cope Thunder is 20 (days include area familiarization flying as well as exercise days) days per exercise. An average of 6 man-hours per day are expended in supporting Oil Analysis of TDY aircraft.

A3.4.2. Impact. +.25

A3.4.3. Applicability. Eielson AFB

A3.5. Title. Positive Mission Variance for NDI of JEIM (Queen Bee Program) for AFSOC engines.

A3.5.1. Definition. Performs out-of-shop eddy current inspections and conductivity inspections on Queen Bee engines and Quick Engine Change (QEC) kits in support of AFSOC. Nondestructive Inspections requirements are directed by AFI 21-105, *Aerospace Equipment Structural Maintenance*, and AFI 21-124, *Air Force Oil Analysis Program*. The 374 Maintenance Fabrication Flight has been tasked to provide nondestructive inspections on

AFSOC T-56 engines and QEC kits. Workload includes pre-cleaning, pre-inspection, calibration and set up, travel to work site, inspection, and post-cleaning. AFSOC provides 17 engines per year.

A3.5.2. **Impact.** +1

A3.5.3. **Applicability.** Yokota AB

A3.6. Title. Positive Mission Variance for AFSOC Aircraft Support.

A3.6.1. **Definition.** This base is required to support AFSOC aircraft NDI workload per Host-Tenant Support Agreement.

A3.6.2. **Impact.** +3

A3.6.3. **Applicability.** Osan AB

A3.7. Title. Positive Mission Variance for Host-Tenant Support Agreement Support.

A3.7.1. **Definition.** Performs NDI workload on Host-Tenant Support Agreement.

A3.7.2. **Impact.** +68

A3.7.3. **Applicability.** Barksdale AFB

A3.8. Title. Positive Mission Variance for Trainer Support.

A3.8.1. **Definition.** Performs required NDI support for Trainer Support.

A3.8.2. **Impact.** +6

A3.8.3. **Applicability.** Barksdale AFB

A3.9. Title. Positive Mission Variance for Ultrasonic Pressure Gauge Inspection.

A3.9.1. **Definition.** Performs NDI support for Ultrasonic Pressure Gauge Inspection.

A3.9.2. **Impact.** +1

A3.9.3. **Applicability.** Cannon AFB

A3.10. Title. Positive Mission Variance for Southeastern Arizona OAP Support.

A3.10.1. **Definition.** Performs NDI support for Southeastern Arizona OAP support.

A3.10.2. **Impact.** +1

A3.10.3. **Applicability.** Davis-Monthan AFB

A3.11. Title. Positive Mission Variance for Composite Wing.

A3.11.1. **Definition.** Performs NDI support for Composite Wings.

A3.11.2. **Applicability and Impact:**

APPLICABILITY:	IMPACT:
Moody	+2 manpower requirements
Mt. Home	+2 manpower requirements
Pope	+2 manpower requirements

A3.12. Title. Positive Mission Variance for Queen Bee Support of TF-34 Engines.

A3.12.1. **Definition.** Performs NDI support for Queen Bee Support of TF-34 engines.

A3.12.2. **Impact.** +1

A3.12.3. **Applicability.** Davis-Monthan AFB

A3.13. Title. Positive Mission Variance for Regional Repair Facility (Queen Bee).

A3.13.1. **Definition.** Performs NDI support for Regional Repair Facility (Queen Bee).

A3.13.2. **Impact.** +.62

A3.13.3. **Applicability.** Shaw AFB

A3.14. Title. Negative Mission Variance for Queen Bee Support of TF-34 Engines.

A3.14.1. **Definition.** Davis-Monthan AFB provides Queen Bee support for TF-34 engines of Nellis AFB. This offsets Davis-Monthan's positive mission variance support for Queen Bee.

A3.14.2. **Impact.** -1 manpower requirement

A3.14.3. **Applicability.** Nellis AFB

PROCESS ANALYSIS SUMMARY**FABRICATION FLIGHT
(NONDESTRUCTIVE INSPECTION)**

PROCESS TITLE	MONTHLY PROCESS TIME (MAN-HOURS)	PROJECTED WORKLOAD	FRACTIONAL MANPOWER
Performs Magnetic Particle Inspection	326.40	100	2.00
Performs Eddy Current Inspection	163.20	100	1.00
Performs Penetrating Radiation (X-RAY) Inspection	40.80	10	0.25
Performs Optical Inspection	0	0	0
Performs Fluorescent Penetrant Inspection	326.40	200	2.00
Performs Ultrasonic Inspection	163.20	100	1.00
Performs Composite/Bond Inspection	0	0	0
Performs Process Control	40.80	1	0.25
Develops Technique	81.60	2	0.50
Conducts Oil Analysis Program	326.40	3,000	2.00
Performs Supervision and Administration	163.20	FIXED	1.00
TOTAL FRACTIONAL MANPOWER			10.00

NOTE: This is a generic model for a base that may have 10 positions authorized. The Process Analysis Summary shows 11 processes performed. The processes are not listed in order of priority. The order of priority for NDI is determined by the Mission Design Series (MDS) and the flying commitment of the base. There are several different cores and orders of priority based on these factors. The process for supervision and administration would in all cases be fixed at one manpower position. The process "Develops Techniques" in most situations would be the lowest priority, as this work would be accomplished only after all other mission essential work is completed. The process "Performs Composite/Bond Inspection" would normally be performed in conjunction with "Eddy Current and Ultrasonic Inspections" and no workload data count was collected for this process. The process "Performs Optical Inspection" is considered a backup to the other processes in most cases, so the man-hours are included in the other processes.